

REMARKS

Overview

The Examiner has allowed claims 30-35, and objected to claim 19 as being dependent upon a rejected base claim but indicated that it would be allowable if rewritten in independent form. Applicants thank the Examiner for this indication of allowable subject matter.

The Examiner has also responded in the prior Office Action as follows: rejected claims 8-18, 20-29, and 36-94 under 35 U.S.C. § 103(a) as being unpatentable over Fowler et al. (U.S. Patent No. 6,714,977).

Applicants hereby amend claims 8, 19, 60, 64, 65, and 66, and further add new claims 95-112. Thus, claims 8-112 are pending.

Applicants' Techniques

Applicants' techniques are generally directed to exchanging information about a modeled state, such as a current state of a user of a wearable computer or other portable computing device. For example, values of the attributes of the modeled state may be received by an intermediary module from various sources (*e.g.*, modules executing on other computing systems), and provided by the intermediary module to various clients. In at least some embodiments, the intermediary module employs various techniques to accommodate sources that become temporarily available or unavailable, such as will typically occur with a wearable or other portable computing device as the device is transported to various physical locations while the sources remain stationary (or are transported to different physical locations). For example, in some embodiments the intermediary module tracks the current availability of the various sources for each of the various modeled state attributes in order to accommodate their use, such as by swapping between the sources in accordance with their current availability.

The Fowler Reference

Fowler discusses techniques for monitoring server rooms and their equipment using various sensors for determining environmental conditions. However, Fowler appears to disclose using only a single sensor of each type for an object or place, such as by having a single humidity sensor, a single air flow sensor, and a single smoke detector sensor (see, for example,

Fowler col.16, lines 1-5 and col. 17, lines 18-20). Furthermore, even if the system of Fowler was modified to include multiple sensors for a particular type of attribute, Fowler appears to lack any suggestion or motivation for tracking availability of sensors and swapping between multiple sensors for a single attribute when a first sensor becomes unavailable. In addition, since the server rooms and equipment in Fowler are stationary, Fowler has no reason to discuss sources that temporarily become available or unavailable, and thus provides no suggestion or motivation for managing availability of multiple sources for a single attribute of a modeled state.

Analysis

The Examiner has objected to claim 19 as being dependent upon a rejected base claim, but indicated that it would be allowable if rewritten in independent form. Claim 19 has been amended to be in independent form, and thus is believed to be in allowable form.

New dependent claims 95-106 have been added that each depend from allowed claim 30, and thus are each allowable for at least the same reasons as claim 30. New independent computer-readable medium claim 107 recites claim elements similar to those of method claim 30, and thus is similarly believed to be allowable for at least the same reasons as claim 30, as is claim 108 that depends from claim 107.

In addition, claim 65 has been rewritten in independent form, and is believed to be allowable for at least the same reasons as claim 30 due to recitation of claim elements similar to those of claim 30. For example, claim 65 as amended recites that “a first intermediary module” provides “information about a context that is modeled with multiple context attributes”, as well as “receiving from a second intermediary module an indication of a desire to perform the providing of the information about the context”, and “in response to the received indication from the second intermediary module, transferring control of the providing of the information about the context to the second intermediary module.”

With respect to the other pending claims 8-18, 20-29, 36-64, 66-94 and 109-112, the Examiner has rejected each of the previously pending claims 8-18, 20-29, 36-64 and 66-94 under 35 U.S.C. § 103(a) as being unpatentable over Fowler. However, each of the pending claims as rejected includes features and provides functionality not taught, suggested or motivated by Fowler.

In Applicants' response to the Examiner's prior rejection of these claims in view of Fowler, Applicants responded by explaining that the previously pending claims were allowable for each of at least two distinct reasons, those being (A) that Fowler appears to disclose using only a single sensor of each type for an object or place; and (B) that Fowler appears to lack any suggestion or motivation for tracking availability of sensors and swapping between multiple sensors for a single attribute when a first sensor becomes unavailable. Applicants thank the Examiner for his clarification in the prior Office Action that the Examiner considers the disparate sensors for temperature, air flow, and humidity to all provide information for a single attribute, although Applicants disagree with this interpretation of Fowler.

However, even if the Examiner's interpretation of Fowler was correct that the disparate sensors used by Fowler were somehow reporting on the same attribute, the Examiner has failed to address or provide any support for the lack in Fowler of (B) any suggestion or motivation for tracking availability of sensors and swapping between multiple sensors for a single attribute when a first sensor becomes unavailable. As previously noted, the Examiner even admits that "Fowler does not explicitly show an example where values obtained from the first source and second sources can be reported together or individually to the client depending upon its availability" (Examiner's Action dated June 1, 2005, page 3, incorporated in Examiner's Action dated January 3, 2006). The Examiner has previously made the assertion that Figure 17 of Fowler shows that a sensor is reporting its status as off-line, and that somehow Fowler could use this information to switch to a different sensor. However, Applicants can find no indication in Figure 17 of any sensor reporting its status as being off-line, and the Examiner appears to be confusing a reading of a functioning sensor that indicates corresponding functionality is turned off (*e.g.*, that the sound alarm on the smoke sensor is currently off) with an unavailable sensor that would not be able to provide any data regarding whether particular functionality is turned on or off. Thus, Applicants request that the Examiner clarify what he believes to be a sensor that reports that it is unable or unavailable to provide any values for an attribute being measured.

Moreover, even if such an off-line status was reported by a sensor, the Examiner has provided no basis for why Fowler includes a suggestion or motivation to use such functionality to switch between sensors such that an available sensor would be used. The Examiner is reminded that, according to the Manual of Patent Examining Procedure ("MPEP") and controlling caselaw, the motivation to add new functionality to a reference to achieve a solution

cannot be based on mere common knowledge and common sense as to benefits that would result from such a combination, and instead must be based on specific teachings in the prior art, such as a specific suggestion in a prior art reference. For example, the Federal Circuit recently rejected an argument by the PTO's Board of Patent Appeals and Interferences that the beneficial results that would be obtained by combining the teachings of two prior art references was sufficient motivation to combine them, and overturned the Board's finding of obviousness because of the failure to provide a specific motivation in the prior art to combine the two prior art references.¹ The MPEP provides similar instructions.²

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The Nortrup reference describes a television set having a menu display by which the user can adjust various picture and audio functions; however, the Nortrup display does not include a demonstration of how to adjust the functions. The Thunderchopper Handbook describes the Thunderchopper game's video display as having a "demonstration mode" showing how to play the game . . . Lee appealed to the Board, arguing that . . . the prior art provided no teaching or motivation or suggestion to combine this reference [Thunderchopper] with Nortrup . . . On the matter of motivation to combine the Nortrup and Thunderchopper references, . . . review of the Examiner's Answer reveals that the examiner merely stated that both the Nortrup function menu and the Thunderchopper demonstration mode are program features and that the Thunderchopper mode "is user-friendly" and it functions as a tutorial, and that it would have been obvious to combine them.

When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. See, e.g., . . . In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998) (there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant); In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) ("teachings of references can be combined only if there is some suggestion or incentive to do so.") (emphasis in original) (quoting ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984)). . . .

With respect to Lee's application, neither the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The examiner's conclusory statements . . . do not adequately address the issue of motivation to combine.
In re Sang-Su Lee, 277 F.3d 1338, at 1341-1343, (Fed. Cir. 2002) (emphasis added).

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To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success.

In contrast to Fowler, and as previously indicated, the pending claims as rejected and as currently amended recite using information about availability of multiple distinct sources for a particular attribute in order to select appropriate sources to use. For example, claim 8 as amended recites “receiving from a first source an indication of a current ability to supply values for an indicated one of the state attributes of the modeled current state” and “supplying to the client a value for the one attribute received from the first source”, and then, after “receiving from a second source an indication of a current ability to supply values for the one attribute” and “receiving from the first source an indication of a temporary current inability of the first source to supply values for the one attribute”, “supplying . . . a value . . . from the second source” in response to “determining that the first source is currently unable to supply values for the one attribute and that the second source is currently able to supply values for the one attribute”. Independent claims 54, 56, 57, 59, 60, 75, 76, 77, 83, 84, 85, 93 and 94 each recite similar language.

Since Fowler appears to lack any suggestion or motivation for tracking availability of sensors and swapping between multiple sensors for a single attribute when a first sensor becomes unavailable, and since the Examiner has provided no indication of how or why Fowler would be modified to include such functionality (other than impermissible hindsight), the pending claims are allowable for at least this reason.

Moreover, various other of the pending claims recite additional claim elements for which no suggestion or motivation in Fowler appears to exist. For example, as previously discussed, at least some of the pending claims discuss that sources become temporarily available or unavailable due to movement of a portable computing device as the device is transported to various physical locations, such as if the sources remain stationary (or are transported to different physical locations). As one example, claim 60 as amended recites “repeatedly, as a current location of the portable computer changes, receiving from each of one or more sources an indication of a current ability to supply values for a specified context attribute of the context and

Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).
Manual of Patent Examining Procedure, § 2143 (emphasis added).

receiving from each of at least one other source an indication of a lack of a current ability to supply values for the specified context attribute of the context, at least one of the current abilities [of the sources] to supply values being based at least in part on the current location of the portable computer". In addition, dependent claims 109-112 each recite that an ability of at least one source to supply values is based on a changed current location.

Conversely, Fowler appears to be limited to fixed sensors in a stationary building, and thus appears to lack any discussion of corresponding functionality to sensor availability temporarily changing based on changing physical locations. Thus, at least claims 60-64, 66-74, and 109-112 are patentable over Fowler for this reason as well.

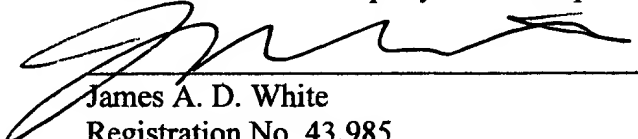
Various other pending dependent claims are each also further patentable over Fowler due to additional reasons specific to those claims, but those additional reasons are not enumerated here separately for the sake of brevity.

Conclusion

In light of the above remarks, Applicants respectfully submit that all of the pending claims are allowable. Applicants therefore respectfully request the Examiner to reconsider this application and timely allow all pending claims. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 694-4815.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,
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